

# Press release

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## **zenon Smart Interfaces: COPA-DATA begins research project on intelligent user interfaces**

*With the rise in the use of modern hardware technology in the industrial environment, such as Smartphones and tablets, there is also an increasing demand for new operating, interaction and visualization concepts. Within the framework of the research project "zenon Smart Interfaces" COPA-DATA is addressing these new market requirements and thereby extending its range of automation solutions for mobile devices.*

The research project is focused, on the one hand, on intelligent user interfaces which can adapt to the particular situation and to the user and, on the other hand, to the associated interaction concepts which surpass common operating design. The aim is, amongst other things, that an automation system can independently detect the hardware on which it is running and automatically adapt for optimum operability on that particular device. The solution resulting from the research should feature the following four innovations: 1. new operating/interaction concepts, 2. intelligent control elements (user interface) 3. adaptations for use on mobile devices, and 4. support during engineering and application design.

## Adaptive user interfaces

Reinhard Mayr, Product Manager at COPA-DATA, explains: "Production employees or maintenance staff might like to view their production on a tablet PC, for example, to monitor processes or to directly take control of the production operation. Whereas another target group might like to perform their planning for management meetings on a tablet, for example, and then retrieve the most important figures on their mobile devices remotely. So it is no longer just about data availability independent of time and place, but moreover their ideal representation and communication capabilities – depending on the output device. We want to address these challenges in this new research project."

## New interaction concepts

Adaptive user interfaces alone cannot offer timely, rapid and secure operation sufficiently. Intelligent automation systems additionally require new interaction concepts which best support the user to perform his tasks. The possibilities are extensive and cover amongst other things: Touch/Multi-Touch and distributed engineering Multi-Touch operation; pattern, position or gesture user recognition; language input; eye-tracking to follow the attention of the user and also body-gesture-based operation. "The human system and the machine system tick in completely different ways. Common operating terminals often do not take this fact into account, are not particularly intuitive, are usually unclear and provide very conservative operating concepts. The user is expected to be a trained specialist, particularly when it comes to industrial applications. We want to offer our customers intuitive and familiar user interfaces based on the knowledge gained from our research project. The interaction concept should be simple and quick to learn and thereby clearly reduce training efforts as well as error rates," Mayr says.

In the development of interaction concepts for industry, one comes across a variety of specific challenges compared to those of the consumer market, which should be observed in the research project:

1. In industrial work environments an increased noise exposure can be expected, which makes voice input a limited possibility or even impossible.

2. Interaction elements on the monitor should be operable on dirty surfaces using gloves.
3. Increased dangers and a higher probability of accidents are inherent in the industrial environment. Consequently, extreme care must be taken, particularly with the potential for wrongly-interpreted or ambiguous gestures. The risk of unintentional, accidental or incorrect entries must be reduced to a minimum by having specific interlock and safety mechanisms.

Mayr adds: "For secure and efficient equipment management one will most likely require a combination of various interaction forms, such as eye-tracking, gesture and voice. Only when the system positively recognizes all three interactions and can clearly utilize them, can the command be performed.

## **Research project establishes comprehensive groundwork**

COPA-DATA has already accomplished a great deal of preliminary work in recent years on the path towards intelligent user interfaces with new interaction concepts. With a native 64-bit application, the implementation of DirectX as a graphic engine and the generic Windows 8-based Multi-Touch functionality support, a basis for further development in this area was achieved with the most recent software release, zenon 7.10. Additionally, findings from three previous studies on the subject of user interfaces, which took place in 2011, with various representatives from external research facilities, flow into the "zenon Smart Interfaces" research project. The project is set to run for three years and will be financially supported by the Austrian Research Promotion Agency (FFG).

### **About D.T. Partners**

DT Partners Pty Ltd was founded based on an increasing demand for Digital Technology products and services in the energy industry. The products division encompasses the design and supply of products and solutions for HMI/SCADA and substation automation.

DT Partner's core values are centered on technical competency and customer focused service, delivered under global quality standards.

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#### **About COPA-DATA**

COPA-DATA is the technological leader for ergonomic and highly-dynamic process solutions. The company, founded in 1987, develops the software zenon for HMI/SCADA, Dynamic Production Reporting and integrated PLC systems at its headquarters in Austria. zenon is sold through its own offices in Europe, North America and Asia, as well as partners and distributors throughout the world. Customers benefit from local contact persons and local support thanks to a decentralized corporate structure. As an independent company, COPA-DATA can act quickly and flexibly, continues to set new standards in functionality and ease of use and leads the market trends. Over 80,000 installed systems in more than 50 countries provide companies in the Food & Beverage, Energy & Infrastructure, Automotive and Pharmaceutical sectors with new scope for efficient automation.

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